1-Create one main folder called Tuwaiq

2-Inside Tuwaiq folder create five empty (0 KB) files for each department. The file names should be _.txt, < department first characters >_num.txt, < department first characters >_num+1.txt and so on (you will have 15 files in total). Ex: eng_1.txt, eng_2.txt / acc_1.txt, acc_2.txt

inin

```
[futun@a3f04f2bafbf home]$ su root
Password:
[root@a3f04f2bafbf home]# mkdir tuwaiq
[root@a3f04f2bafbf tuwaiq]# for i in {1..5}; do touch eng$i.txt; done
[root@a3f04f2bafbf tuwaiq]# for i in {1..5}; do touch acc$i.txt; done
[root@a3f04f2bafbf tuwaiq]# for i in {1..5}; do touch hr$i.txt; done
[root@a3f04f2bafbf tuwaiq]#
```

3-Create the following users with description and expiration date (3 years after creation date). No need to add Expiration date for managers and CEO. Users are listed below:

Username	Role	Password
ahmad, yaman	Engineer	P@ssword123!
ali	HR Manager	P@ssword123!
hazem	HR employee	P@ssword123!
salwa, rasha	Accountant	P@ssword123!
anas	CEO	P@ssword123!

```
[root@a3f04f2bafbf tuwaiq]# useradd -c"engineer" -e27-08-2026 ahmed
[root@a3f04f2bafbf tuwaiq]# useradd -c"engineer" -e27-08-2026 yaman
[root@a3f04f2bafbf tuwaiq]# useradd -c"HR Manager" ali
[root@a3f04f2bafbf tuwaiq]# useradd -c"HR employee" -e27-08-2026 hazem
[root@a3f04f2bafbf tuwaiq]# useradd -c"Accountant" -e27-08-2026 salwa,rasha
useradd: invalid user name 'salwa,rasha'
[root@a3f04f2bafbf tuwaiq]# useradd -c"Accountant" -e27-08-2026 salwa
[root@a3f04f2bafbf tuwaiq]# useradd -c"Accountant" -e27-08-2026 rasha
[root@a3f04f2bafbf tuwaiq]# useradd -c"CEO" anas
```

passwoed

```
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@a3f04f2bafbf tuwaiq]# passwd ali
Changing password for user ali.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@a3f04f2bafbf tuwaiq]# passwd hazem
Changing password for user hazem.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@a3f04f2bafbf tuwaiq]# passwd salwa
Changing password for user salwa.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@a3f04f2bafbf tuwaiq]# passwd rasha
Changing password for user rasha.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@a3f04f2bafbf tuwaiq]# passwd anas
Changing password for user anas.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@a3f04f2bafbf tuwaiq]#
```

4-Ensure the addition of the users using some Linux utility.

```
[root@a3f04f2bafbf tuwaiq]# tail -n 10 /etc/passwd
naif:x:1006:1006:shipping:/home/naif:/bin/bash
norah:x:1007:1007:HR:/home/norah:/bin/bash
khaled:x:1008:1008:Sales representative:/home/khaled:/bin/bash
ahmed:x:1009:1014:engineer:/home/ahmed:/bin/bash
yaman:x:1010:1015:engineer:/home/yaman:/bin/bash
ali:x:1011:1016:HR Manager:/home/ali:/bin/bash
hazem:x:1012:1017:HR employee:/home/hazem:/bin/bash
salwa:x:1013:1018:Accountant:/home/salwa:/bin/bash
rasha:x:1014:1019:Accountant:/home/rasha:/bin/bash
anas:x:1015:1020:CEO:/home/anas:/bin/bash
```

5- Create 3 groups (Engineering, Accounting, HR) then add the users to their relevant group.

```
[root@a3f04f2bafbf tuwaiq]# groupadd engineering
[root@a3f04f2bafbf tuwaiq]# groupadd accounting
[root@a3f04f2bafbf tuwaiq]# groupadd HR
groupadd: group 'HR' already exists
[root@a3f04f2bafbf tuwaiq]# groupadd hr
[root@a3f04f2bafbf tuwaiq]# sodo usermod ahmed -aG engineering
bash: sodo: command not found
[root@a3f04f2bafbf tuwaiq]# sudo usermod ahmed -aG engineering
[root@a3f04f2bafbf tuwaiq]# sudo usermod yaman -aG engineering
[root@a3f04f2bafbf tuwaiq]# sudo usermod ali -aG hr
[root@a3f04f2bafbf tuwaiq]# sudo usermod hazem -aG hr
[root@a3f04f2bafbf tuwaiq]# sudo usermod salwa -aG accounting
[root@a3f04f2bafbf tuwaiq]# sudo usermod rasha -aG accounting
```

6-Your manager asked you to organize the files into 3 separate sub folders (Engineering, Accounting and HR).

```
[root@a3f04f2bafbf tuwaiq]# mkdir -p {engineering,accounting,hr}
[root@a3f04f2bafbf tuwaiq]# ls
acc1.txt  acc3.txt  acc5.txt     eng1.txt  eng3.txt  eng5.txt     hr        hr2.txt  hr4.txt
acc2.txt  acc4.txt  accounting   eng2.txt  eng4.txt  engineering  hr1.txt   hr3.txt  hr5.txt
[root@a3f04f2bafbf tuwaiq]# mv eng1.txt eng2.txt eng3.txt eng4.txt eng5.txt engineering/
[root@a3f04f2bafbf tuwaiq]# mv hr1.txt hr2.txt hr3.txt hr4.txt hr5.txt hr/
[root@a3f04f2bafbf tuwaiq]# mv acc1.txt acc2.txt acc3.txt acc4.txt acc5.txt accounting/
[root@a3f04f2bafbf tuwaiq]# ls
accounting  engineering  hr
[root@a3f04f2bafbf tuwaiq]#
```

7-Change user and group ownership for each subfolder to the relevant group (use any user from the department as an owner). Ex: Engineering folder should be owned by Engineering group and then ensure the new ownership.

```
[root@a3f04f2bafbf tuwaiq]# chown -R :engineering engineering
[root@a3f04f2bafbf tuwaiq]# chown -R :accounting accounting
[root@a3f04f2bafbf tuwaiq]# chown -R :hr hr
[root@a3f04f2bafbf tuwaiq]# ls -l
total 12
drwxr-xr-x 2 root accounting  4096 Aug 27 11:44 accounting
drwxr-xr-x 2 root engineering 4096 Aug 27 11:42 engineering
drwxr-xr-x 2 root hr          4096 Aug 27 11:43 hr
```

: folder than group

8-Grant the CEO permission to all folders.

```
[root@a3f04f2bafbf tuwaiq]# chown -R anas hr
[root@a3f04f2bafbf tuwaiq]# chown -R anas accounting
[root@a3f04f2bafbf tuwaiq]# chown -R anas engineering
```

```
[root@a3f04f2bafbf tuwaiq]# ls -laR
.:
total 20
drwxr-xr-x 5 root root        4096 Aug 27 11:44 .
drwxr-xr-x 1 root root        4096 Aug 27 10:46 ..
drwxr-xr-x 2 anas accounting  4096 Aug 27 11:44 accounting
drwxr-xr-x 2 anas engineering 4096 Aug 27 11:42 engineering
drwxr-xr-x 2 anas hr          4096 Aug 27 11:43 hr

./accounting:
total 8
drwxr-xr-x 2 anas accounting 4096 Aug 27 11:44 .
drwxr-xr-x 5 root root       4096 Aug 27 11:44 ..
-rw-r--r-- 1 anas accounting    0 Aug 27 10:31 acc1.txt
-rw-r--r-- 1 anas accounting    0 Aug 27 10:31 acc2.txt
-rw-r--r-- 1 anas accounting    0 Aug 27 10:31 acc3.txt
-rw-r--r-- 1 anas accounting    0 Aug 27 10:31 acc4.txt
-rw-r--r-- 1 anas accounting    0 Aug 27 10:31 acc5.txt

./engineering:
total 8
drwxr-xr-x 2 anas engineering 4096 Aug 27 11:42 .
drwxr-xr-x 5 root root        4096 Aug 27 11:44 ..
-rw-r--r-- 1 anas engineering    0 Aug 27 10:31 eng1.txt
-rw-r--r-- 1 anas engineering    0 Aug 27 10:31 eng2.txt
-rw-r--r-- 1 anas engineering    0 Aug 27 10:31 eng3.txt
-rw-r--r-- 1 anas engineering    0 Aug 27 10:31 eng4.txt
-rw-r--r-- 1 anas engineering    0 Aug 27 10:31 eng5.txt

./hr:
total 8
drwxr-xr-x 2 anas hr   4096 Aug 27 11:43 .
drwxr-xr-x 5 root root 4096 Aug 27 11:44 ..
-rw-r--r-- 1 anas hr      0 Aug 27 10:32 hr1.txt
-rw-r--r-- 1 anas hr      0 Aug 27 10:32 hr2.txt
```

```
[root@a3f04f2bafbf tuwaiq]# chmod -R 470 hr
[root@a3f04f2bafbf tuwaiq]# chmod -R 470 accounting
[root@a3f04f2bafbf tuwaiq]# chmod -R 470 engineering
```

```
total 20
drwxr-xr-x 5 root root        4096 Aug 27 11:44 .
drwxr-xr-x 1 root root        4096 Aug 27 10:46 ..
dr--rwx--- 2 anas accounting  4096 Aug 27 11:44 accounting
dr--rwx--- 2 anas engineering 4096 Aug 27 11:42 engineering
dr--rwx--- 2 anas hr          4096 Aug 27 11:43 hr

./accounting:
total 8
dr--rwx--- 2 anas accounting 4096 Aug 27 11:44 .
drwxr-xr-x 5 root root       4096 Aug 27 11:44 ..
-r--rwx--- 1 anas accounting    0 Aug 27 10:31 acc1.txt
-r--rwx--- 1 anas accounting    0 Aug 27 10:31 acc2.txt
-r--rwx--- 1 anas accounting    0 Aug 27 10:31 acc3.txt
-r--rwx--- 1 anas accounting    0 Aug 27 10:31 acc4.txt
-r--rwx--- 1 anas accounting    0 Aug 27 10:31 acc5.txt

./engineering:
total 8
dr--rwx--- 2 anas engineering 4096 Aug 27 11:42 .
drwxr-xr-x 5 root root        4096 Aug 27 11:44 ..
-r--rwx--- 1 anas engineering    0 Aug 27 10:31 eng1.txt
-r--rwx--- 1 anas engineering    0 Aug 27 10:31 eng2.txt
-r--rwx--- 1 anas engineering    0 Aug 27 10:31 eng3.txt
-r--rwx--- 1 anas engineering    0 Aug 27 10:31 eng4.txt
-r--rwx--- 1 anas engineering    0 Aug 27 10:31 eng5.txt

./hr:
total 8
dr--rwx--- 2 anas hr   4096 Aug 27 11:43 .
drwxr-xr-x 5 root root 4096 Aug 27 11:44 ..
-r--rwx--- 1 anas hr      0 Aug 27 10:32 hr1.txt
-r--rwx--- 1 anas hr      0 Aug 27 10:32 hr2.txt
-r--rwx--- 1 anas hr      0 Aug 27 10:32 hr3.txt
-r--rwx--- 1 anas hr      0 Aug 27 10:32 hr4.txt
-r--rwx--- 1 anas hr      0 Aug 27 10:32 hr5.txt
```

9-Create a Backup folder inside the /tmp folder and then backup the company's data into the backups folder. Use a meaningful name for the backup folder.

```
zip error: Nothing to do! (tuwaiq.zip)
[root@a3f04f2bafbf tuwaiq]# zip tuwaiq.zip /home/tuwaiq
  adding: home/tuwaiq/ (stored 0%)
[root@a3f04f2bafbf tuwaiq]#
```

```
bash: unzhip: command not found
[root@a3f04f2bafbf backups]# unzip tuwaiq.zip
Archive:  tuwaiq.zip
   creating: home/tuwaiq/
[root@a3f04f2bafbf backups]#
```

```
[root@a3f04f2bafbf packups]# ls -lRa
.:
total 16
dr--rwx--- 4 anas hr         4096 Aug 27 13:58 .
drwxr-xr-x 4 root root       4096 Aug 27 13:58 ..
dr--rwx--- 2 anas accounting 4096 Aug 27 11:44 accounting
dr--rwx--- 2 anas engineering 4096 Aug 27 11:42 engineering
-r--rwx--- 1 anas hr            0 Aug 27 10:32 hr1.txt
-r--rwx--- 1 anas hr            0 Aug 27 10:32 hr2.txt
-r--rwx--- 1 anas hr            0 Aug 27 10:32 hr3.txt
-r--rwx--- 1 anas hr            0 Aug 27 10:32 hr4.txt
-r--rwx--- 1 anas hr            0 Aug 27 10:32 hr5.txt

./accounting:
total 8
dr--rwx--- 2 anas accounting 4096 Aug 27 11:44 .
dr--rwx--- 4 anas hr         4096 Aug 27 13:58 ..
-r--rwx--- 1 anas accounting    0 Aug 27 10:31 acc1.txt
-r--rwx--- 1 anas accounting    0 Aug 27 10:31 acc2.txt
-r--rwx--- 1 anas accounting    0 Aug 27 10:31 acc3.txt
-r--rwx--- 1 anas accounting    0 Aug 27 10:31 acc4.txt
-r--rwx--- 1 anas accounting    0 Aug 27 10:31 acc5.txt

./engineering:
total 8
dr--rwx--- 2 anas engineering 4096 Aug 27 11:42 .
dr--rwx--- 4 anas hr          4096 Aug 27 13:58 ..
-r--rwx--- 1 anas engineering    0 Aug 27 10:31 eng1.txt
-r--rwx--- 1 anas engineering    0 Aug 27 10:31 eng2.txt
-r--rwx--- 1 anas engineering    0 Aug 27 10:31 eng3.txt
-r--rwx--- 1 anas engineering    0 Aug 27 10:31 eng4.txt
-r--rwx--- 1 anas engineering    0 Aug 27 10:31 eng5.txt
[root@a3f04f2bafbf packups]#
```